

# A Comprehensive Water Conservation Program for South Florida

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Governing Board Workshop  
June 11, 2008

# Public Involvement

- ✓ **December 17, 2007: Stakeholder Meeting #1**
- ✓ **January 28, 2008: Stakeholder Meeting #2**
- ✓ February 7, 2008: Update to WRAC
- ✓ **February 28, 2008: Stakeholder Meeting #3**
- ✓ February 29, 2008: Ten-County Coalition Presentation
- ✓ March 6, 2008: Update to WRAC
- ✓ **March 28, 2008: Stakeholder Meeting #4**
- ✓ April 3, 2008: Update to WRAC
- ✓ April 9, 2008: Presentation of program to Governing Board
- ✓ **May 2, 2008: Stakeholder Meeting #5**
- ✓ May 8, 2008: Update to WRAC
- June: Present Final Draft Plan to WRAC & Governing Board

# Comprehensive Water Conservation Program

## Goals

- Create a year-round culture of conservation
- Eliminate wasteful water use
- Promote efficient water use
- Establish partnerships; maximize effectiveness
- Achieve a measurable reduction in water use

# Program Components



- Regulatory Initiatives
- Voluntary & Incentive-based Initiatives
- Education & Marketing Initiatives

# Strategies, Actions and Implementation

## Example: Education & Marketing Initiatives

**Strategy:** Develop and implement an effective social marketing campaign

- *Immediate Actions (2008):* Identify partners, inventory existing campaigns, assess adaptability to South Florida
- *Short-Term Actions (2009/10)* Identify target audiences, conduct market research, set goals for behavioral change, develop messages, select mediums, pre-test
- *Mid-Term Actions (2011/12):* Evaluate results, adapt campaign

**Success Indicator:** Region-wide public recognition of individual water use, value of water conservation, adoption of individual water conservation behaviors.

# Integrated Approach

## Example: Landscape Irrigation Strategies



- **Regulatory**
  - Year-round landscape irrigation measures
- **Education & Marketing**
  - Industry/government partnerships
  - Workshops and outreach
  - Florida-friendly landscape guide
  - Public service announcements
  - Professional development
- **Voluntary & Incentive-based**
  - Urban mobile irrigation labs

# Integrated Approach Cary, North Carolina



- Program Elements:
  - Public education
  - Landscape irrigation codes
  - Toilet retrofit rebates
  - Residential audits
  - Conservation rate structures
  - Reclaimed water utilization
- Estimated 4.6 million gallons per day saved by 2028
- Reduced operating costs
- Delayed two water plant expansions

## District Survey

- Over 50% unaware of monthly water use
- 46% don't believe they are wasting water
- Severe drought was the major motivation to conserve water, followed by reduced rates and rules
- 72% supported landscape irrigation limits
- 75% supported two days or less irrigation limits



# Regulatory Initiatives

## Goal

*In partnership with utilities and local governments, adopt and implement goal-based water conservation regulations, local ordinances and utility practices to promote water efficiencies, further advance water management and achieve measurable reductions in public and private water use.*

# Regulatory Initiatives Strategies: 2008-2010



## Rulemaking

- Year-Round Irrigation Measures
  - Adopt Rule
  - Model Ordinance
  - Workshops/Technical Assistance
  - Education and Outreach

# Year-Round Irrigation Measures City of Cape Coral



- 2-day per week irrigation measures
- 40% reduction in water use
- 110 GPD per capita use



# Regulatory Initiatives Strategies: 2008-2010



## Rulemaking

- Goal-Based Conservation Plans
  - Modify Basis of Review
  - Utility-Specific Plans
    - Conservation-based rate structures
    - Retrofit & Leak Detection Programs
    - Education, Outreach
  - Technical Assistance/Workshops

# Goal-Based Conservation Miami-Dade County



- Launched goal-based program in 2007
  - Rebates and retrofits
  - Landscape irrigation evaluations with rebates
  - Audits of all County owned facilities
  - Public education and outreach
  - Amending building code for new development
- *First year reported savings – 1.2 MGD*
- *Exceeded goal of 963,000 GPD by more than 20%*

## Conservation Rate Structures Irvine Ranch Water District, CA

- Five-tier water conservation rate structure implemented in 1991
- 19% decline in water use after one year
- 45% reduction in landscape irrigation
- Avoided \$33.2 million in water purchases between 1991-1997



# Regulatory Initiatives Strategies: 2008-2010



## Rulemaking

- Golf Course Water Conservation
  - Modify Basis of Review
  - Florida-Friendly Landscaping
  - Rain Sensors/Weather Systems

## Best Management Practices

- Agriculture, Golf Courses
  - High efficiency irrigation systems
  - BMPs

## E-Reporting

- Golf Courses; Industrial, Commercial and Institutional users
  - Web-based e-permitting and compliance reporting



# BMPs & Irrigation Technology

## Citrus Industry



- Conversion to micro-jet irrigation grew by 30% over 10 years (from 53% in 1991 to 80% by 2001)
- Saving 90 BGY
- 20 BGY potential savings with additional conversions



# Regulatory Initiatives Strategies: 2011-2018

## Florida-Friendly Landscaping

THE SMART WAY TO GROW



- Continued implementation of 2008 – 2010 strategies
- Model ordinance for Florida Friendly landscape design
- Effective rate structures for medium/small utilities
- Evaluate retrofit/leak detection programs
- Review and Adapt

# Voluntary & Incentive-Based Initiatives

## Goal

*Expand voluntary government and industry partnerships and strengthen economic incentives to encourage public and private investments in water conservation. Create and make available to water using sectors incentive programs for water conservation projects and programs.*

# Voluntary & Incentive-Based Initiatives Strategies: 2008-2010



## Lead by example

- Audits and Conservation Plans
- District facilities
- Public facilities
- Industrial, Commercial facilities, Institutions

# Voluntary & Incentive-Based Initiatives Strategies: 2008-2010



## Technical/Financial Assistance

- Water Savings Incentive Program
  - Hardware programs
  - Low-flow plumbing fixtures, rain sensors, fire hydrant flushing
- Ag/Urban Mobile Irrigation Labs
- Alternative Water Supply
  - Expand reclaimed water
  - Education and Outreach

## Funding and Technical Assistance Retrofits, Rebates, Grants



- Palm Beach County, 2003: Retrofitted high school saved \$6,000 per year
- Orange County, 2006: Saved 4.8 MGY thru' toilet retrofit rebates
- Hunters Creek, 2004: State-of-the art irrigation systems saving 90 MGY
- Since 2000, 11 Mobile Irrigation Labs have saved 4.7 BGY
- Reclaimed Water, 2006: 229 MGD on 80,000 homes, 168 golf courses, 113 parks, 52 schools

# Voluntary & Incentive-Based Initiatives Strategies: 2008-2010



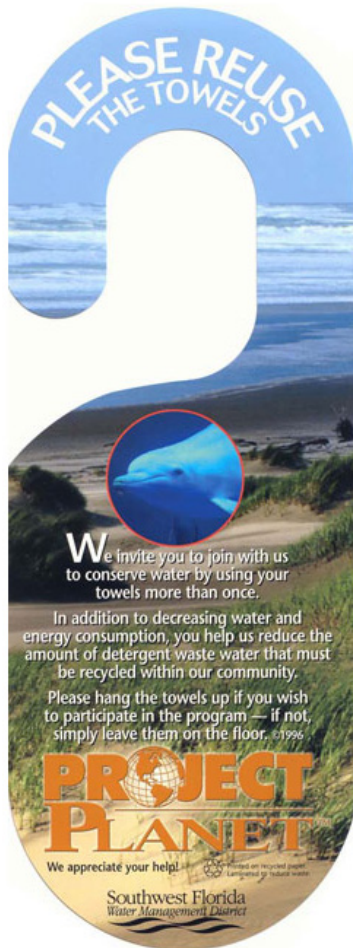
## Recognition Programs

- New Development
  - Water Star
- Lodging
  - Green Lodging
  - Water CHAMP
- Restaurants





# Recognition Program Water CHAMP



- 359 participating properties – 37,000 hotel rooms
- 500,000 GPD saved
- 20 GPD saved per room occupied/day
- \$1.00 per room daily savings
- 20-30 percent savings on laundry costs

# Voluntary & Incentive-Based Initiatives Strategies: 2008-2010

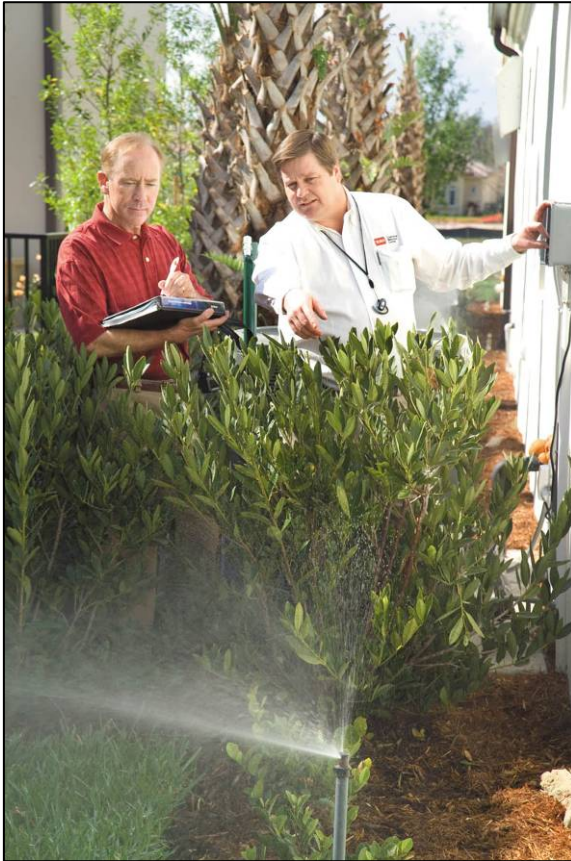


- BMPs for water use efficiency
  - Agriculture
  - Golf Courses
  - New Development





## BMPs & Irrigation Technologies Mediterra Community, Naples



- Installed a satellite-controlled irrigation system
- Saved 1.23 million gallons since 2007
- Estimated 40-80% less water used than other communities

# BMPs & Irrigation Technology

## Normandy Shores Golf Course, Miami Beach



- Installed Florida-friendly landscaping
- Installed dual-source irrigation systems to utilize reclaimed water
- Reduction in potable water use by 713,000 GPD

# Voluntary & Incentive-Based Initiatives Strategies: 2011-2018



- Continue with 2008 – 2010 strategies
- Retrofit/replace inefficient HVAC cooling tower systems
- Promote partnership, collaboration
- Support cost-effective technologies
  - Automated meter reading
  - Automatic line flushing



# Water Saving Technology City of Pompano

- Installed seven automatic hydrant flushing devices
- Estimated water savings of 40,000 GPY per device



# Voluntary & Incentive-based Initiative Strategies: 2011-2018



- Mobile Irrigation Labs for indoor conservation
- Technical assistance for water audits and conservation plans for public, other facilities
- Web-based inventory of water and financial savings
- Cisterns, rainharvesting
- Evaluate and Adapt

# Education & Marketing Initiatives

## Goal

- *Collaborate and coordinate with regional partners to educate and inform residents and visitors about their environmental, economic and social responsibility, foster a culture of conservation and position the State of Florida as leader in water conservation.*

# School-Based Education Strategies: 2008-2010



- Inventory and build on existing education initiatives
- Share classroom resources
- Great Water Odyssey
  - Teacher Workshops

# Public Information Strategies: 2008-2010



SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

## Skip A Week ...of Irrigation

During cooler months in fall and winter, your lawn doesn't need watering every week ... It's the best time to train your yard to need less water!

In fact, too much irrigation:

- Makes your lawn less able to survive droughts
- Encourages pests
- Wastes water

Here's how you'll know if your lawn needs watering:

- Grass blades are folded in half
- Grass blades are blue-gray
- Your footprint remains on the lawn

Grow smart with Florida-friendly landscaping and skip a week! To learn more, visit our web site at [WaterMatters.org](http://WaterMatters.org) and open the link to the "Skip-A-Week" page.

Southwest Florida Water Management District

WATERMATTERS.ORG • 1-800-423-1476

UF UNIVERSITY of FLORIDA IFAS Extension Florida Yards & Neighborhoods

- Inventory; build on existing initiatives
- Establish partnerships
- Maximize distribution of information
- [www.savewaterfl.com](http://www.savewaterfl.com)



# Existing Programs & Partnerships Broward County's NatureScape

- Partnership with SFWMD, Broward School District, local governments, volunteers
- Supports education/ environmental objectives of water conservation plans
- 2,100 Certified NatureScape sites; 430 million gallons of water saved since 2005




# Education & Marketing Initiatives Strategies: 2008-2010




- Water Matters
- Water Sense partner
- Florida-Friendly landscaping
- Public service announcements
- Reclaimed water
- Informative billing

# Informative Billing San Antonio, Texas



## San Antonio Water System

P.O. Box 2990  
San Antonio, Texas 78299-2990  
(210) 764-SAWS (7297)



**Yearly consumption history, neighborhood average, system-wide average**

FEDERAL STORMWATER FEE \$1.50  
SEWER SERVICE CHARGE \$1.70

**AMOUNT DUE NOW** 16.20  
5% LATE FEE AFTER JAN 26 0.82  
TOTAL WITH LATE FEE 17.02

(Detailed bill calculation on back)

**EDWARDS AQUIFER WATER LEVEL**

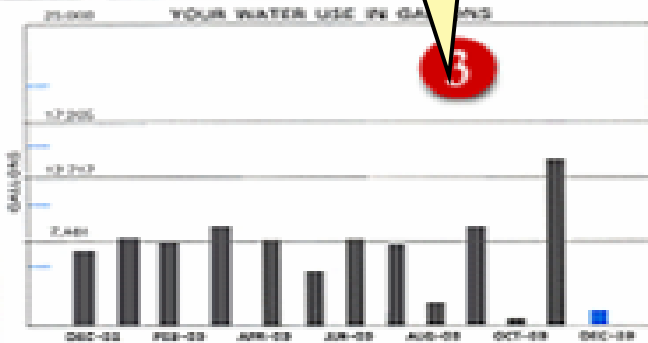
Record High June 1992, 703.2 ft.  
Record Low Aug. 1954, 572.9 ft.

Stage I Begins 650.0 ft.  
Stage II Begins 640.0 ft.  
Stage III Begins 630.0 ft.

**CURRENT LEVEL 676.9**

ft. Measured above 100 ft. level

**YOUR WATER USE IN GALLONS**



**Current aquifer levels, record high/low level comparison, water shortage stage**

YOUR WATER USE WAS 1,666 GALLONS.

PAID TOTAL AND AVOID NOTICE

USE DATE TO FOR HEARING

JAN 05 2004

DETACH HERE PLEASE PRESENT BOTH PORTIONS IF PAYING IN PERSON DETACH HERE

# Social Marketing Strategies: 2008-2010

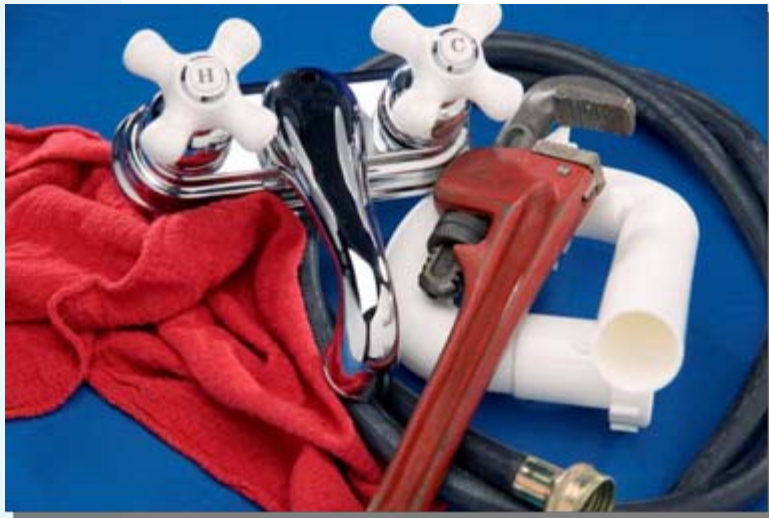


- Inventory; Assess adaptability
- Identify Partners
- Market Research
- Develop Message and Behavior
- Multi-Media, multi-year campaign





# Professional Development Strategies: 2008-2018



- WaterSense Certification Programs
  - Landscape professionals
- Water efficiency courses
  - On-line
  - Plumbing, general contractors
- Partnerships with trade schools, community colleges



# Volunteer Activities Strategies: 2008-2018



- Evaluate existing programs
- Identify partners
- Recruit water conservation ambassadors
- Conduct water academies
- Deploy volunteers
- Evaluate effectiveness

# Volunteer Activities

## Example: St. Johns River Water Management District



- Active in 14 of District's 18 counties
- Trains and equips volunteers
- 673 register volunteers
- 1,600 special events/presentations annually



## Initial Steps

- Establish baseline for water use
- Determine 10-year goal
- Implement short term strategies
- Measure progress
- Review and adapt program

## Public Input

- Capture water lost to tide – Everglades restoration
- Maximize reuse of reclaimed water
- Integrated initiatives – couple water and energy conservation
- Build on existing initiatives and partnerships
- Availability of funds for implementation
- Program flexibility and adaptation
- Continued public involvement

## What's next?

- Further Board Direction
- Plan Adoption
- Consent Agenda for July
- Program Implementation

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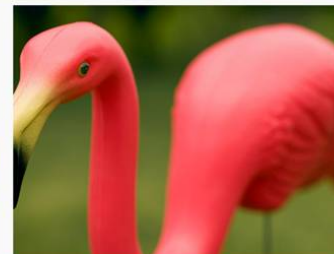
SFWMD awards  
\$400,000 to save water

**Tell Us What  
You Think ►**

Comment on year-round  
irrigation limits.

**Conservation Tip for August**

If you have an automatic sprinkler system, consider installing a rainfall or soil moisture sensor. Rainfall sensors prevent your system from watering in the rain, while soil moisture sensors allow watering only when the soil beneath the surface really needs it.

**Current Restrictions****YardSmart Landscaping****More Water-Saving Tips**